

OBSTRUCTION DATA SHEET

ODS 184
TOLEDO EXPRESS AIRPORT
TOLEDO, OHIO

DIGITIZED FROM

OC 184
SURVEYED OCTOBER 1993
9TH EDITION

HORIZONTAL DATUM NAD 83
VERTICAL DATUM NGVD 29



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OBSTRUCTION DATA SHEET

The Obstruction Data Sheet (ODS) provides digital obstruction and runway data for use in aircraft arrival and departure planning. This information has been obtained using field survey and photogrammetric methods by the Photogrammetry Branch of the National Ocean Service in accordance with Federal Aviation Regulations Part 77 (FAR-77), "Objects Affecting Navigable Airspace" and FAA No. 405, "Specifications - Airport Obstruction Chart and Related Products."

The ODS is a derivative of the Airport Obstruction Chart (OC). The source OC is indicated on the ODS cover. All objects, both obstructing and nonobstructing, that carry an elevation on the OC are listed in the ODS. The ODS and the OC depict a representation of objects that existed at the time of the OC field survey.

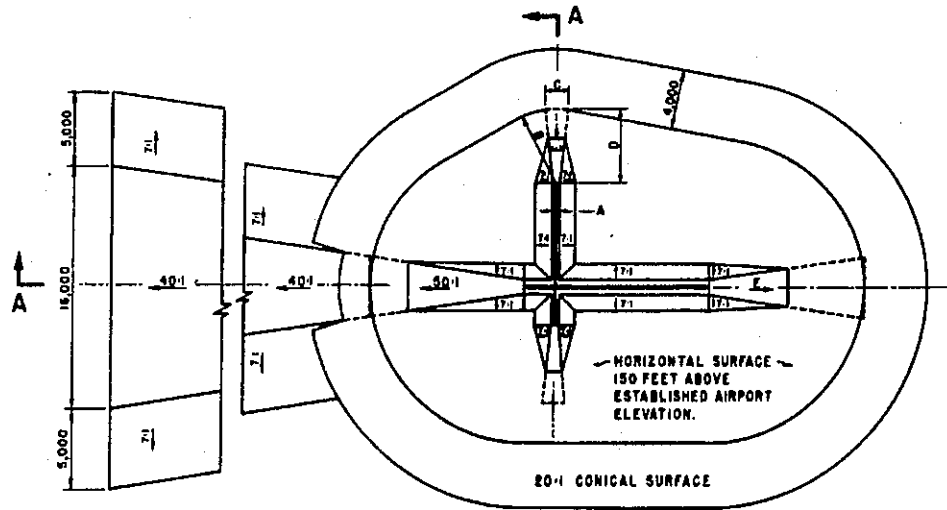
ODS information is arranged as follows:

1. Objects located in an FAR-77 approach or primary and listed with the associated runway (reference runway).
2. All objects not included in "1" above are listed with the Airport Reference Point (ARP).
3. Runway configuration and runway lengths, widths, and elevations are presented on the ODS last page.

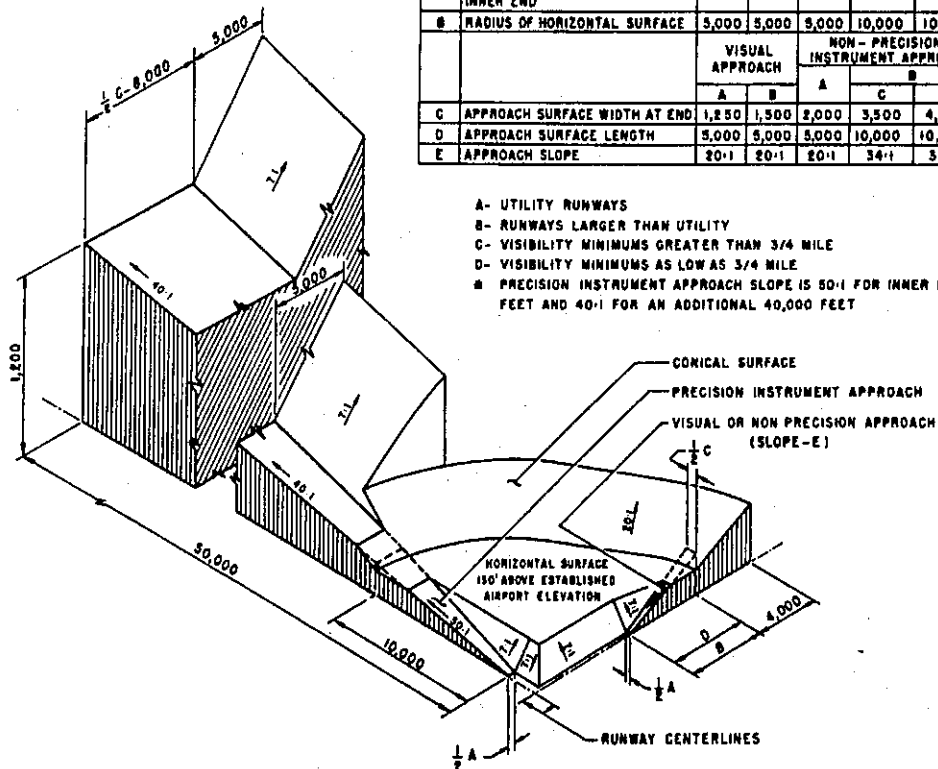
The FAR-77 imaginary approach surfaces for which the obstruction surveys were performed are coded in the ODS as follows:

- A(V) Utility runway - visual approach only
- A(NP) Utility runway - nonprecision instrument approach
- B(V) Nonutility runway - visual approach only
- C Nonutility runway - nonprecision instrument approach with visibility minimums greater than 3/4 mile
- D Nonutility runway- nonprecision instrument approach with visibility minimums as low as 3/4 mile
- PIR Precision instrument runway
- SUPLC Supplemental C underlying a B(V)

FAR-77 imaginary surface dimensions are defined on page 2 of this report.



DIM	ITEM	DIMENSIONAL STANDARDS (FEET)					
		VISUAL RUNWAY		NON-PRECISION INSTRUMENT RUNWAY			PRECISION INSTRUMENT RUNWAY
		A	B	A	C	D	
A	WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	500	500	500	1,000	1,000
B	RADIUS OF HORIZONTAL SURFACE	5,000	5,000	5,000	10,000	10,000	10,000
		VISUAL APPROACH		NON-PRECISION INSTRUMENT APPROACH			PRECISION INSTRUMENT APPROACH
		A	B	A	C	D	
C	APPROACH SURFACE WIDTH AT END	1,250	1,500	2,000	3,500	4,000	15,000
D	APPROACH SURFACE LENGTH	5,000	5,000	5,000	10,000	10,000	•
E	APPROACH SLOPE	20:1	20:1	20:1	34:1	34:1	•



- A- UTILITY RUNWAYS
- B- RUNWAYS LARGER THAN UTILITY
- C- VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
- D- VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
- PRECISION INSTRUMENT APPROACH SLOPE IS 50:1 FOR INNER 10,000 FEET AND 40:1 FOR AN ADDITIONAL 40,000 FEET

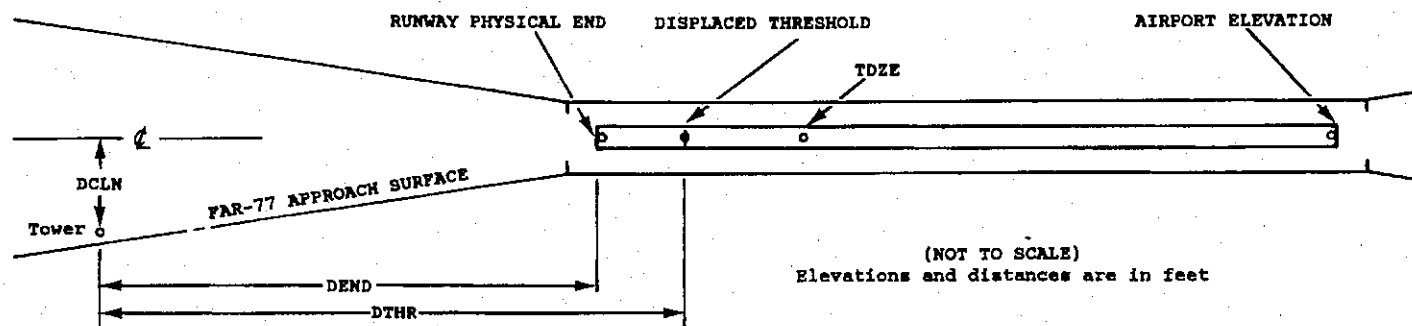
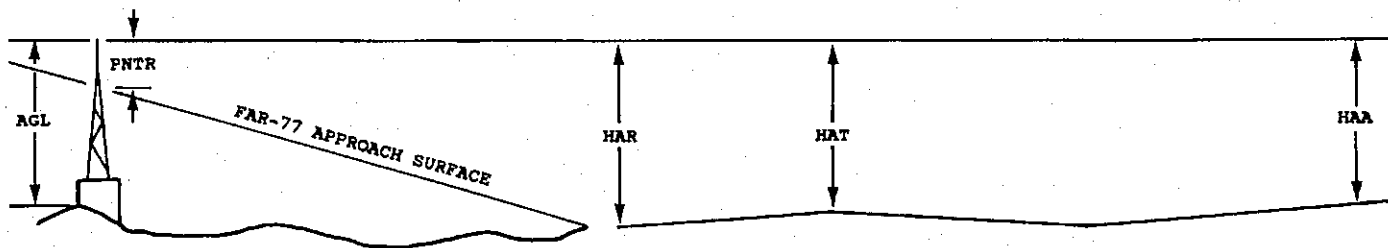
**FAR-77 CIVIL AIRPORT
IMAGINARY SURFACES**

ANNOTATION OF ODS DATA FORMAT

OC XXXX

AIRPORT ELEVATION XXXX

1	2	3	4	4	5	6	7	7	8	9	10	11	11	11	12	12	12	13
X	X	XXXX/XXXX	XXXXXX.XXX	XXXXXX.XXX	XXXXXX	XXXX/XXXX	XXXXXX.XXX	XXXXXX.XXX	A	ELEV	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
XXXXXXXXXXXX			XXXXXX.XXX	XXXXXX.XXX	XX	XXXX	XXXX	XXXX	XXX	XXX	XXX	XXX	XXX	XXXX	XXXX	XXXX	XXXX	XXXX
XXXXXXXXXXXX			XXXXXX.XXX	XXXXXX.XXX	XX	XXXX	XXXX	XXXX	XXX	XXX	XXX	XXX	XXX	XXXX	XXXX	XXXX	XXXX	XXXX



EXPLANATION OF FOOTNOTES

- 1 Data block identifier. If a runway number is entered (reference runway), this data block will contain data pertinent to the reference runway and to objects in the FAR-77 approach and primary areas of the reference runway. If ARP is entered, this data block will contain the ARP position and data relative to all objects not in an FAR-77 approach or primary area.
- 2 For the reference runway, the lowest FAR-77 approach surface for which an obstruction survey was performed. (More than one surface may be surveyed).
- 3 Elevation at approach end of reference runway/touchdown zone elevation
- 4 Latitude and longitude at approach end of reference runway
- 5 Geodetic azimuth of reference runway reckoned from north
- 6 Elevation at reference runway displaced threshold/touchdown zone elevation
- 7 Latitude and longitude at reference runway displaced threshold
- 8 Accuracy codes: Horizontal (Ft.) Vertical (Ft.)
 1 = 20 A = 2
 2 = 40 B = 5
 C = 20
- 9 Elevation above mean sea level (MSL) at top of object. This value includes 15 feet added to noninterstate roads, 17 feet added to interstate roads, and 23 feet added to railroad tracks.
- 10 Height above ground level (AGL). AGL's are provided only for manmade objects appearing on the OC and equal to or greater than 200 feet AGL. AGL accuracy is 10 feet.
- 11 HAA - Height above airport
HAR - Height above approach end of reference runway
HAT - Height above reference runway touchdown zone elevation
- 12 DEND - Distance along reference runway centerline from point nearest to object (perpendicular) to approach end of runway
DTHR - Distance along reference runway centerline from point nearest to object (perpendicular) to displaced threshold
DCLN - Distance left (L) or right (R) of reference runway centerline as observed facing forward in a landing aircraft

A negative value for DEND or DTHR indicates that object is in primary on roll-out side of zero distance point.
- 13 PNTR - Penetration of indicated FAR-77 approach or primary surface (See footnote 2).

OC0184

AIRPORT ELEVATION 684

16 C 675/ 675 413536.560 -834808.256 1571105.

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	413552.15	-834822.39	1A	739		64	64	55	1871		378R	15
TREE	413555.49	-834812.77	1A	728		53	53	44	1899		427L	3
TREE	413601.13	-834823.46	1A	773		98	98	89	2740		101R	24

34 C 665/ 668 413445.580 -834739.694 3371124.

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
TREE	413428.21	-834723.87	1A	726		61	58	42	2087		427R	5
TREE	413427.15	-834722.69	1A	738		73	70	54	2221		468R	13
TREE	413423.78	-834726.17	1A	744		79	76	60	2432		92R	13
TREE	413413.69	-834728.67	1A	766		101	98	82	3300		479L	10

7 PIR 683/ 683 413452.998 -834950.541 671001.

OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
OL ON GS	413526.51	-834750.86	1A	697		14	14	13	-9698		401R	28
OL ON LTD WSK	413527.74	-834752.71	1A	689		6	6	5	-9617		232R	19
ELEC EQUIP	413527.59	-834816.21	1A	686		3	3	2	-7965		447L	9
ANT ON OL BLDG	413501.51	-834910.07	1A	695		12	12	11	-3169		400R	13
ROD ON OL TMOM	413454.91	-834930.84	1A	697		14	14	13	-1454		403R	14
OL ON GS	413453.67	-834934.84	1A	725		42	42	41	-1126		400R	42
OL ON LTD WSK	413459.20	-834939.74	1A	689		6	6	5	-1000		260L	6
BUSH	413456.36	-834955.92	1A	692		9	9	8	245		473L	8
BUSH	413447.84	-834954.31	1A	688		5	5	4	467		370R	0
BUSH	413454.59	-834958.32	1A	694		11	11	10	483		378L	5
BUSH	413455.93	-834959.11	1A	695		12	12	11	485		527L	6
ANT ON BLDG	413451.59	-835004.13	1A	692		9	9	8	1007		269L	-7
ROD ON OL POLE	413440.52	-835033.45	1A	749		66	66	65	3496		102L	0
TREE	413445.44	-835045.67	1A	765		82	82	81	4158		921L	3
TREE	413442.45	-835045.80	1A	769		86	86	85	4285		646L	4
TREE	413426.38	-835038.43	1A	771		88	88	87	4400		1071R	4
TREE	413433.04	-835044.70	1A	782		99	99	98	4577		264R	11
TREE	413437.56	-835047.95	1A	785		102	102	101	4628		253L	13
TREE	413428.54	-835045.14	1A	780		97	97	96	4785		671R	5

OC0184

AIRPORT ELEVATION 684

25 PIR 665/ 678 413533.614 -834741.976 2471127.

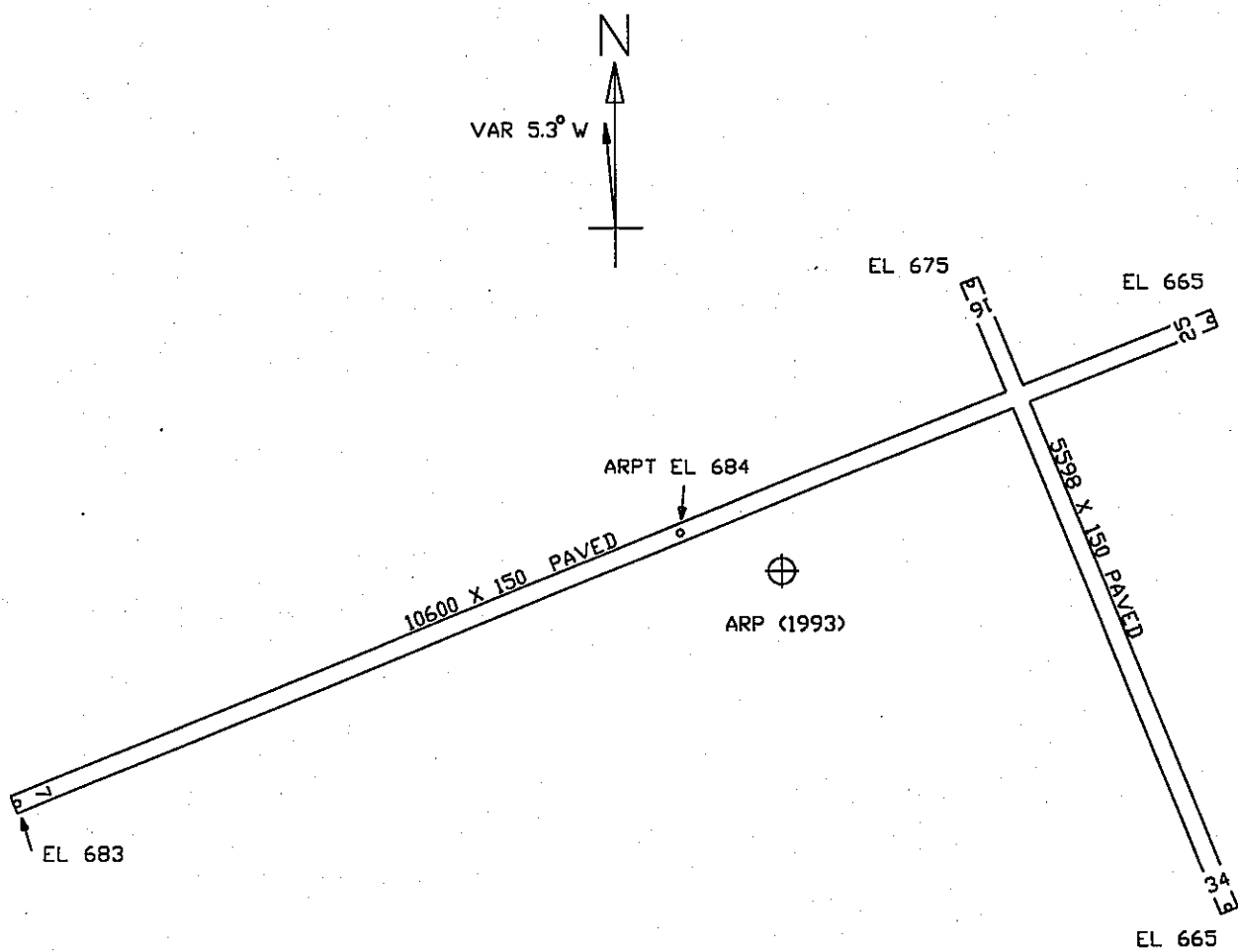
OBJECT	LAT	LONG	A	EL	AGL	HAR	HAT	HAA	DEND	DTHR	DCLN	PNTR
OL ON LTD WSK	413459.20	-834939.74	1A	689		24	11	5	-9599		260R	6
OL ON GS	413453.67	-834934.84	1A	725		60	47	41	-9473		400L	42
ROD ON OL TMOM	413454.91	-834930.84	1A	697		32	19	13	-9145		403L	14
ANT ON OL BLDG	413501.51	-834910.07	1A	695		30	17	11	-7431		400L	13
ELEC EQUIP	413527.59	-834816.21	1A	686		21	8	2	-2634		447R	9
OL ON LTD WSK	413527.74	-834752.71	1A	689		24	11	5	-982		232L	19
OL ON GS	413526.51	-834750.86	1A	697		32	19	13	-901		401L	28
TREE	413544.83	-834729.13	1A	700		35	22	16	1340		668R	12
LT POLE	413547.39	-834721.25	1A	700		35	22	16	1992		675R	-1
TREE	413535.68	-834708.30	1A	730		65	52	46	2440		799L	20
ROAD (N)	413545.79	-834711.05	1A	697		32	19	13	2644		225R	-17
TREE	413537.94	-834704.66	1A	727		62	49	43	2784		696L	10
TREE	413556.67	-834657.61	1A	742		77	64	58	4012		845R	1
TREE	413554.32	-834652.99	1A	745		80	67	61	4243		490R	-1

OC0184

AIRPORT ELEVATION 684

ARP 413512.537 -834828.192

OBJECT	LAT	LONG	A	EL	AGL	HAA	MAG BEARING	DISTANCE
OL AMOM	413519.38	-834804.93	1A	703		19	7353	1899
ANT & APBN ON OL ATCT	413532.18	-834822.21	1A	750		66	1811	2040
TREE	413501.58	-834759.07	1A	751		67	12154	2475
TREE	413458.24	-834758.23	1A	763		79	12743	2698
BUSH	413502.39	-834903.31	1A	690		6	25415	2859
ANT ON OL TACAN	413537.32	-834757.71	1A	706		22	4800	3414
TREE	413454.96	-834907.79	1A	768		84	24443	3496
TREE	413500.66	-834743.82	1A	678		-6	11455	3580
ROD ON MCWV TWR	413548.04	-834834.55	1A	788		104	35738	3626
TREE	413551.01	-834823.62	1A	749		65	1023	3910
TREE	413453.02	-834739.16	1A	690		6	12313	4218
OL ON TANK	413515.92	-834730.02	1A	778		94	9051	4433
TREE	413555.56	-834809.57	1A	747		63	2318	4579
TREE	413447.57	-834736.40	1A	674		-10	12800	4677
TREE	413509.22	-834931.52	1A	769		85	27118	4824
ANT	413508.74	-834932.66	1A	766		82	27049	4914
TREE	413436.68	-834743.53	1A	737		53	14212	4969
POLE	413451.86	-834930.41	1A	712		28	25125	5170
TREE	413528.67	-834722.33	1A	741		57	7713	5265
TREE	413450.81	-834932.85	1A	722		38	25111	5383
TREE	413438.27	-834728.18	1A	714		30	13232	5730
TREE	413449.64	-834938.66	1A	724		40	25154	5835
TREE	413503.81	-834944.57	1A	755		71	26639	5871
TREE	413501.38	-834944.61	1A	699		15	26417	5916
TREE	413531.95	-834713.86	1A	741		57	7606	5981
TREE	413435.30	-834724.66	1A	751		67	13316	6125
TREE	413502.34	-834949.52	1A	760		76	26549	6266
TREE	413550.55	-834717.29	1A	734		50	5945	6620
TREE	413445.55	-834947.75	1A	733		49	25059	6635
TREE	413500.60	-834955.60	1A	729		45	26459	6752
TREE	413553.14	-834715.72	1A	756		72	5833	6871
TREE	413458.99	-835000.44	1A	741		57	26414	7143
TREE	413415.36	-834732.57	1A	775		91	14908	7167
TREE	413440.14	-834957.32	1A	766		82	24928	7525
TREE	413437.89	-835003.81	1A	773		89	24932	8069
TREE	413455.66	-835016.78	1A	762		78	26337	8427
TREE	413452.42	-835021.82	1A	746		62	26202	8872
TREE	413435.67	-835014.53	1A	780		96	25031	8901
TREE	413447.51	-835046.98	1A	765		81	26148	10847
OL ON TWR	413333.87	-834926.89	1A	867		183	20922	10938



TOUCHDOWN ZONE
RUNWAY ELEVATION

16	675
34	668
7	683
25	678

TOLEDO EXPRESS AIRPORT
TOLEDO, OHIO
(NOT TO SCALE)
(ELEVATIONS AND DISTANCES IN FEET)